

Fact and Fiction:

Emergency Department Use and the Health Safety Net in Maricopa County

- *Local emergency departments are overrun by the uninsured and people who are in Arizona illegally.*
- *People go to the ED because they don't have anyplace else to go.*
- *Most ED overuse is caused by treating conditions that could be treated more efficiently elsewhere.*

Are these statements fact or fiction? What factors contribute to these perceptions? What are the implications for health care access, quality and cost, and how does ED use relate to the condition of the overall health safety net in Maricopa County?

As part of the Robert Wood Johnson Foundation's (RWJF) national *Urgent Matters* initiative, St. Luke's Health Initiatives extended its recent efforts to look at problems that plague trauma centers, emergency departments (EDs) and the primary care safety net in Maricopa County.¹ The underlying premise is that these components ought not to be viewed as separate and distinct in their own right, but should be framed within the context of an *integrated system of care*. In this light, problems that plague EDs illustrate how the components work – or don't work – together to provide a tapestry of health safety net services that often vary widely across communities based on local capacity and system responsiveness.

This report summarizes the findings of two limited SLHI research studies that look at ED use in three central Phoenix-area hospitals: St. Joseph's Hospital and Medical Center, Maricopa Medical Center and John C. Lincoln Health Network – North Mountain Hospital.²

- The first study analyzes discharge data for all ED visits over an approximate 12-month period.
- The second study assesses ED utilization from the patient perspective through on-site interviews of patients waiting to be seen in the ED during one week in December 2003.
- The results illuminate the fact – and the fiction – of ED use, drawing on both hospital encounter data and patient interviews to both answer and raise questions about how the system can best meet the needs of those who depend on safety net providers – and of all people who need ED and primary care services.³
- The studies underscore the central point that ED use specifically – and the health safety net generally – is driven by local demographic characteristics that often vary widely across communities.

THE 'BIG BOX'

As a community resource, the 'safety net' refers to health care providers that, either by mandate or by mission, organize and deliver a significant level of health care and related services to the poor and uninsured. Not surprisingly, emergency departments figure prominently in that definition. Some view EDs as the "ultimate" safety net because they are available to everyone at all hours, every day of the year, regardless of ability to pay. In that respect, they might be considered the 'Big Box' of health care: the place where consumers perceive they can get everything under one roof, anytime they need it.



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*A Special Publication from
St. Luke's Health Initiatives*

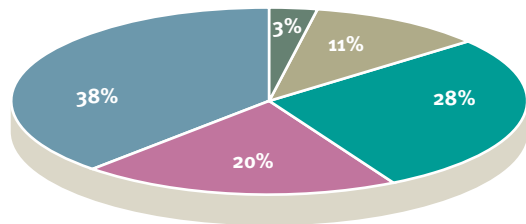
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OVER TIME: ED UTILIZATION (N = 149,851)

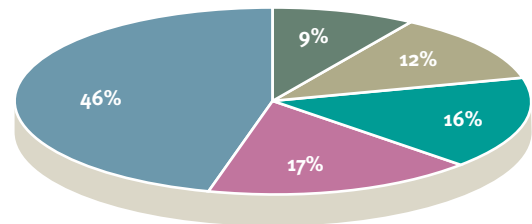
ED Use: Insurance Status

To determine use patterns at specified EDs, researchers queried the *Maricopa Health Information Project (M-HIP)*, an integrated database of aggregated medical encounter data spanning multiple years and multiple providers.⁴ These results were compared to general Arizona population data by insurance source.⁵

ED ENCOUNTERS BY INSURANCE STATUS



ARIZONA POPULATION BY INSURANCE STATUS



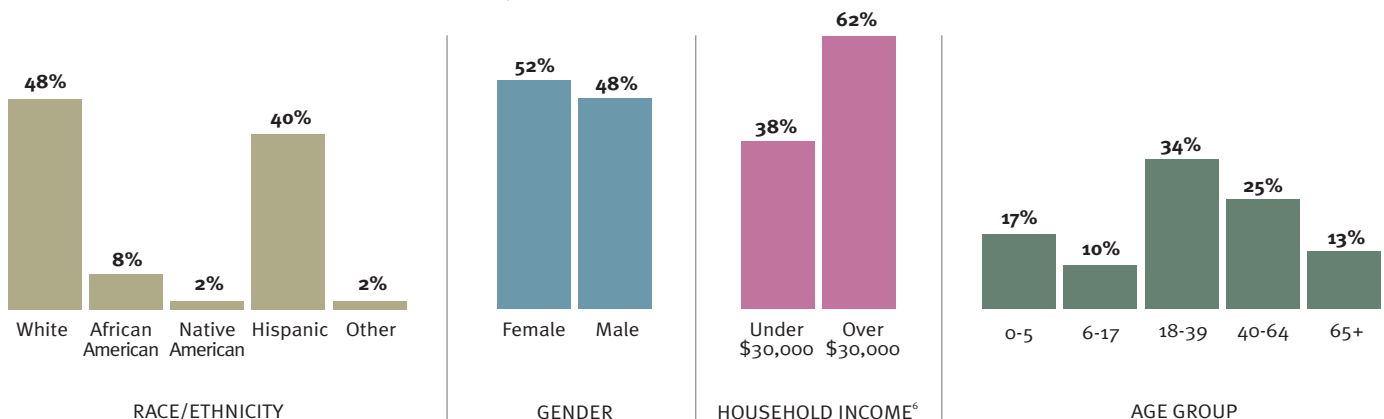
Medicare AHCCCS Uninsured Private Other

Contrary to popular belief, ED use is not necessarily driven by indigent and uninsured patients who have no other place to obtain care:

- On average, uninsured patients comprised 20% of ED use in these selected facilities, compared to 17% of the total Arizona population. As one might expect, the percentages vary by facility and location.
- In the hospitals studied, Medicaid (AHCCCS) patients accounted for 28% of all selected ED visits, compared to 16% in the total population. Again, this varies by location.
- Medicare patients' use of selected EDs is generally comparable to their percentage of overall population insurance status. Persons with private insurance used these specific EDs slightly less (38%) than their general population status (46%).
- All told, patients with private insurance, Medicare or AHCCCS comprised 80% of ED encounters in the selected facilities.

While we do not break out the differences in insurance status by individual EDs in this report, it bears repeating that the demographics of the service areas of specific facilities impact to a significant degree the insurance status of users. This underscores the larger point that any assessment of the larger health safety net starts at the local community level.

ED Use: General Demographics



ED Use: Medical Acuity

Encounter data for all ED visits at three Phoenix-area hospitals that occurred over approximately twelve months provided the baseline dataset for the analysis of use by medical acuity. Data were analyzed according to an algorithm developed by researchers at New York University⁷ that classifies ED visits according to the following acuity categories:⁸

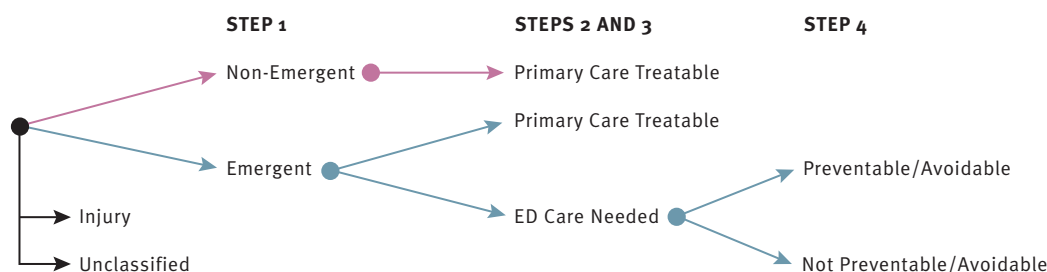
NON-EMERGENT – PRIMARY CARE TREATABLE The patient’s initial complaint, presenting symptoms, vital signs, medical history and age indicated that immediate medical care was not required within twelve hours.

EMERGENT – PRIMARY CARE TREATABLE Treatment was required within twelve hours, but care could have been provided effectively and safely in a primary care setting. The complaint did not require continuous observation, and no procedures were performed or resources used that are not available in a primary care setting.

EMERGENT – ED CARE NEEDED – PREVENTABLE/AVOIDABLE Emergency department care was required based on the complaint or procedures performed/resources used, but the emergent nature of the condition was potentially preventable/avoidable if timely and effective ambulatory care had been received during the episode of illness (e.g., the flare-ups of asthma, diabetes, congestive heart failure, etc.).

EMERGENT – ED CARE NEEDED – NOT PREVENTABLE/AVOIDABLE Emergency department care was required, and ambulatory care treatment could not have prevented the condition (e.g., trauma, appendicitis, myocardial infarction, etc.).

ED CLASSIFICATION PROCESS

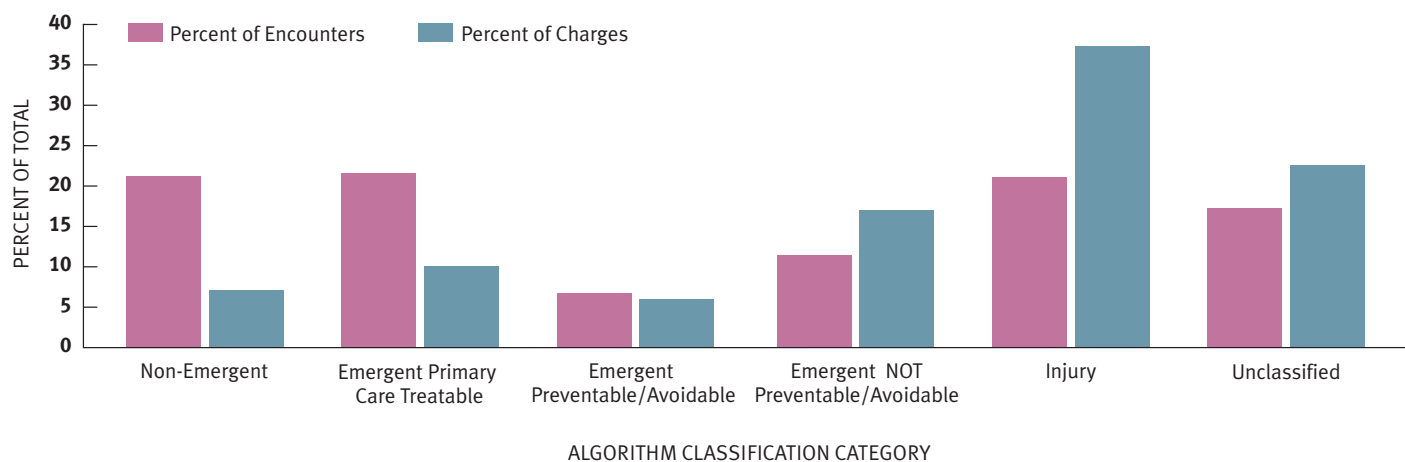


Acuity Type and Charges

For AHCCCS, privately insured and uninsured patients, the plurality of visits are for non-emergent/primary care treatable conditions, and account for 43% of visits across all payor sources. According to the algorithm, these conditions do not need attention within the next twelve hours and, therefore, do not need to be seen in an ED if primary care is otherwise available to the patient. Emergent conditions that could have been avoided with timely access to primary care services account for another 7% of all ED visits, leading to the conclusion that approximately 50% of ED visits might have been addressed in a primary care setting.

Emergent conditions that were not preventable, along with injuries, accounted for approximately 33% of all ED visits. However, they accounted for 54% of total ED charges. In contrast, non-emergent visits and visits that were emergent but could have been prevented or avoided accounted for 50% of all encounters – but generated 23% of total ED charges. The data are insufficient to support conclusions about the cost effectiveness of providing care for non-emergent and emergent/preventable conditions, since it depends not only on revenues generated, but on resources used.

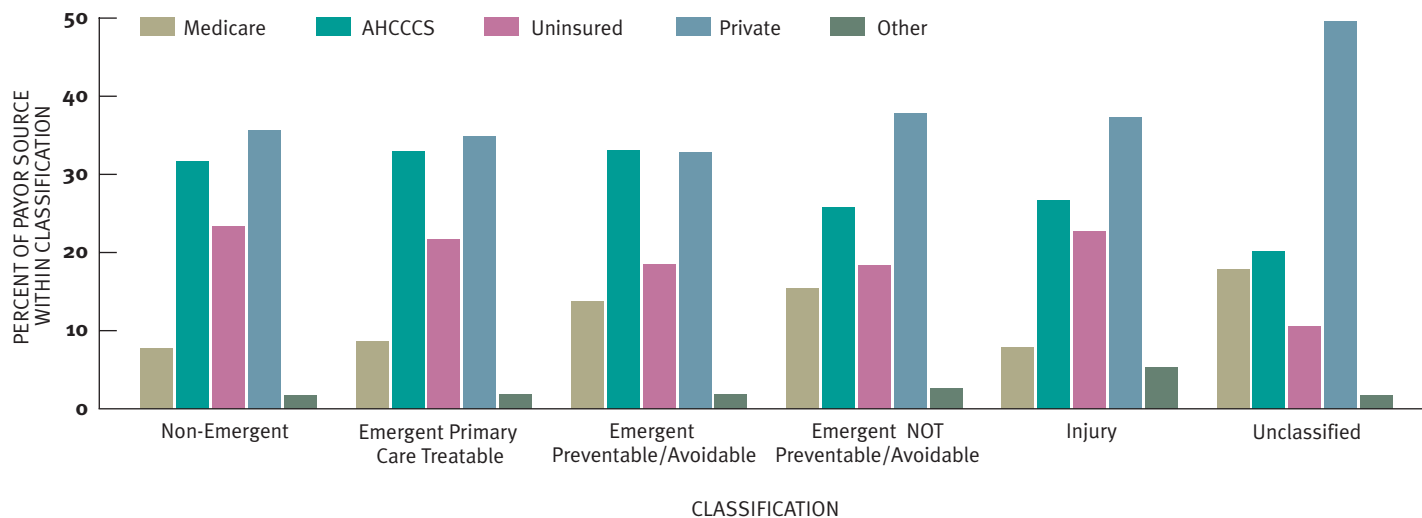
ED ENCOUNTERS BY ACUITY TYPE AND RELATED CHARGES



Acuity Type and Payors

It is also of some interest to look at the breakout of payor sources within each of the acuity classification categories. Within the non-emergent and emergent, but primary care treatable classifications, privately insured patients are the largest single group, followed closely by AHCCCS members. Utilization patterns of the privately insured and AHCCCS enrollees are similar across algorithm classification categories. Privately insured patient volume exceeded AHCCCS client volume by small but significant margins in all but one of the categories. Comparatively speaking, Medicare patients are not high users of ED services. Use by the uninsured, while significant, falls well below privately insured and AHCCCS use. The caveat – and it’s an important one – is that the payor mix at each facility reflects the demographics – including insurance status – of the local community.

ED ENCOUNTERS BY ACUITY TYPE AND PAYORS



ED Use: Patient Flow

A separate analysis of M-HIP data revealed that EDs are the busiest between 8:00 a.m. and 4:00 p.m. on weekdays (especially Mondays) – a period when physician offices and primary care clinics are open. A total of 44% of all ED encounters were between 8:00 a.m. and 4:00 p.m., with another 37% between 4:00 p.m. and midnight, and 19% of visits between midnight and 8:00 a.m.

ED USE BY PATIENT FLOW

ED Time Period	Percent of Patient Visits
8 a.m. – 4 p.m.	44%
4 p.m. – 12 a.m.	37%
12 a.m. – 8 a.m.	19%

ED Use: Frequency

It is often assumed that uninsured persons who are frequent users of EDs present a strain on ED capacity. The data, however, indicate that only a small percentage of the uninsured had three or more visits in a twelve-month period, and the frequency of ED use was comparable to that of people with insurance. This finding is consistent with other recent research studies, which conclude that “Frequent ED users do not appear to use the ED as a substitute for their primary care but, in fact, are a less healthy population who need and use more care overall.”⁹

ED USE BY FREQUENCY AND PAYOR

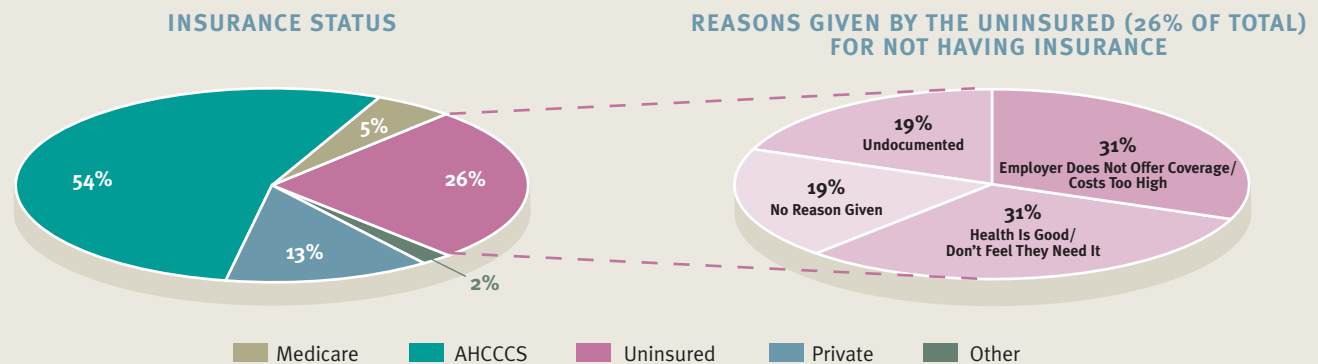
Insurance Status	1 ED Visit	2 ED Visits	3+ ED Visits
Private	78%	14%	8%
AHCCCS	75%	16%	9%
Medicare	72%	17%	11%
Uninsured	86%	11%	3%

A SLICE IN TIME: ED PATIENT SURVEY RESULTS (N = 482)

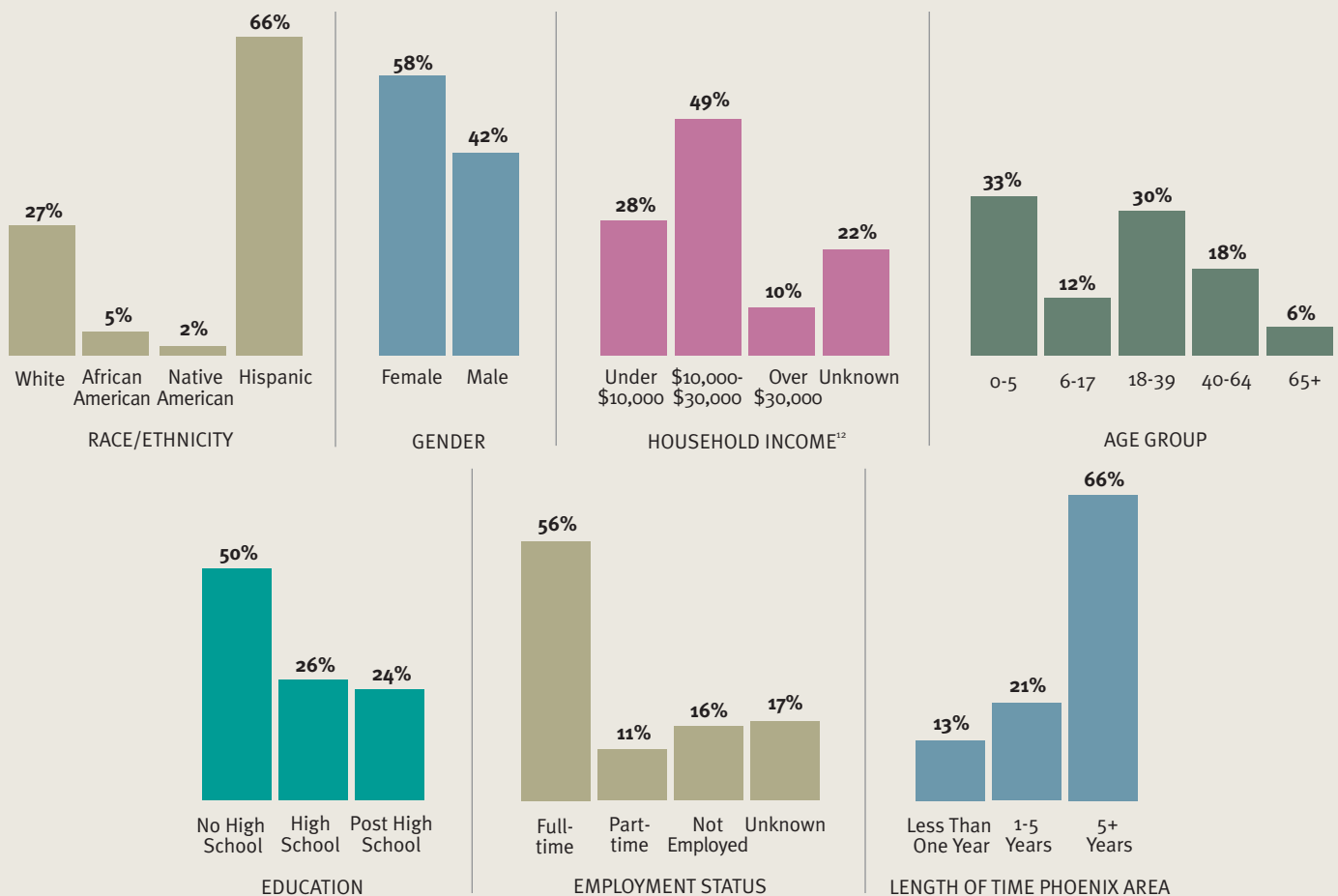
ED utilization data provide information about who is using the ED for what types of conditions, and at what cost. But the data don't tell us *why* people often see the ED as their *preferred* source of care – even when they readily admit that the situation is not an emergency.¹⁰ In order to better understand the relationship between ED use and the primary care system, we asked patients why they sought care in the ED.

A sample of almost 500 patients waiting to be seen at the three selected hospital EDs were interviewed in both English and Spanish over the course of one week in December 2003. The interview process pre-selected only those patients with non-emergent conditions.

Patient Survey: Insurance Status¹¹

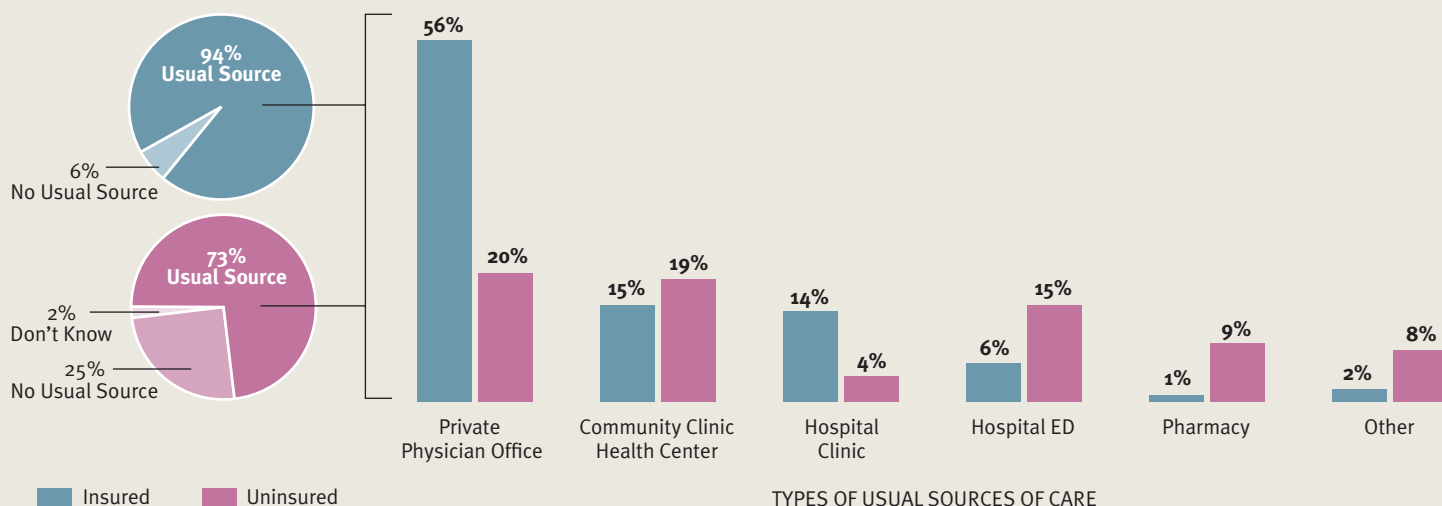


Patient Survey: General Demographics



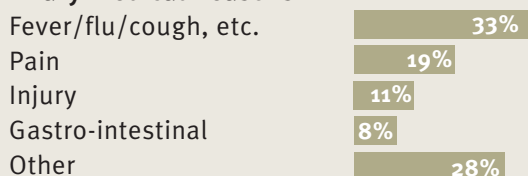
Patient Survey: ED Use

USUAL SOURCE OF CARE AND TYPES OF USUAL SOURCES OF CARE

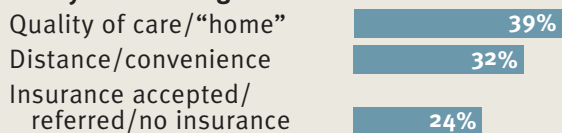


REASONS FOR SEEKING CARE IN THE ED

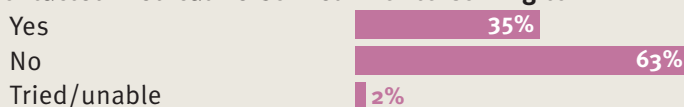
Primary Medical Reasons



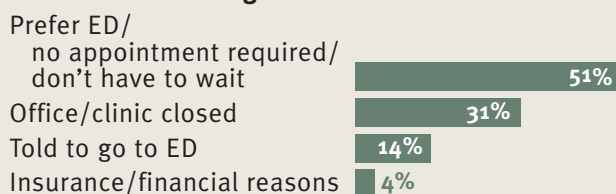
Primary Reason to go to *this* ED



Contacted Medical Personnel Prior to Coming to ED



Reasons for Not Going to Usual Source of Care*



*Does not include those without a usual source of care.

DURATION OF MEDICAL PROBLEM

Few hours	21%	2-3 days	21%	Over one week	9%
One day	23%	4-7 days	19%	Over one month	7%

Preliminary Observations

Insurance Coverage

- EDs are primarily used by persons with some type of health insurance (80%). Those without health insurance represent just 20% of the volume of the selected EDs – roughly comparable to the percentage of the uninsured in the general population. While the percentage of uninsured persons varies across EDs, the common perception that Arizona EDs are overrun with uninsured patients is not supported by this study.
- Even though the uninsured are not the primary users of EDs on an absolute basis, they utilize EDs more than insured patients on a relative basis. For example, more uninsured patients report using the ED as their “usual source of care” (15%) than insured patients (6%). The uninsured are less likely than the insured to utilize physician offices and hospital clinics as a usual source of care. Fully 53% of the uninsured survey participants had not seen a primary care provider in the past year, compared to 20-28% of insured survey participants. While the uninsured had more one-time visits to the ED than insured users (by about 10%), they had fewer repeat visits.

- The majority of patients interviewed in the selected EDs had coverage with AHCCCS. This may have more to do, however, with the time of the year, which was at the height of the flu season and documented cases of death and/or serious complications, than with established use patterns. Based on information from the M-HIP data base over a one-year period, AHCCCS patients comprised about 28% of all ED use at the selected facilities.
- Almost one-third of those interviewed who indicated they were uninsured said they didn't have health insurance because they didn't perceive a need for it. "Going bare" is a common phenomenon in any voluntary insurance environment.
- Among Hispanic/Latino patients that were interviewed, 31% were uninsured compared to 26% for the overall survey population. While some of the uninsured are presumably undocumented immigrants, because it is difficult to capture good information on undocumented persons, one is cautioned about reading too much into these statistics. In fact, just 26 people reported lacking the necessary documents to apply for AHCCCS coverage.

Demographics

- Compared to the demographics of all ED users at selected facilities over a longer period of time, the patient survey population tended to be female, Hispanic, on AHCCCS or living in a family with a household income under \$30,000. The prevalence of kids age 0-5 is conceivably driven by time of year and the wide incidence of flu and similar medical conditions. This might account, for example, for the large number of children under five years of age seen in the ED patient interviews.
- Fully two-thirds of those interviewed had lived in the Phoenix area more than five years. This belies the notion that ED use is driven by a transient population with no usual source of care.
- Low education levels, low incomes and other demographic characteristics of the patient survey group correlate with what one would expect to find in safety net facilities generally. These descriptors underscore the point that, even though a majority of persons using the ED had health insurance and reported a usual source of care, EDs, by their very nature of "just in time" services for all comers, are a critical component of any community's health safety net.

Use Patterns

- Contrary to popular belief, people aren't driven to use the ED because they have no place else to go. The great majority of ED users in this sample survey population reported having a usual source of care. They use the ED because of convenience, perceptions of high quality, familiarity and other factors. Over 90% indicated satisfaction with the care received at the ED, compared to a 76% satisfaction rate for care received from their physician or clinic provider.
- Ability to pay is a factor in ED use. Many survey participants reported that they fully expected to pay for care, but that they could arrange payments over time at the ED, while they were often expected to pay up front for care at a physician's office and couldn't always afford to do so. Contrary to popular perception that the uninsured and other low income groups are looking for a "free ride," most ED users want to pay for their care – they just need flexibility in the financial arrangements.
- ED cost effectiveness is related to the ability to pay issue. Numerous studies have supported the claim that ED use for non-emergent reasons is not cost effective compared to seeing traditional primary care providers. On the other hand, using the ED can represent a rational and cost effective decision on the part of the patient, where 'cost effective' is more a function of convenience, perceived quality and ability to pay.
- All roads lead to the ED. Almost two-thirds (63%) of the survey patients did not contact their usual source of care prior to coming to the ED. Of those patients who spoke with their usual provider over the phone prior to coming to the ED, almost 80% were referred to the ED. When one combines survey responses with ED encounter data that indicate a majority of visits in the 8:00 a.m. – 4:00 p.m. time slot for conditions that were classified as either non-emergent or emergent/primary care treatable, one can begin to appreciate not only the rationale for seeking care at the ED, but also how deeply integrated – and accepted – EDs are as a source of one-stop, comprehensive care.
- The high percentage of ED visits for non-emergent and avoidable conditions is less a reflection on EDs themselves than it is on the highly fragmented and inefficient character of the entire health care system. "Fixing" the ED won't accomplish much without paying attention to misaligned incentives and endemic system problems of access, cost and quality.

Conclusions and Recommendations

- To some extent, EDs are victims of their own success. People report that they prefer going to the ED because of convenience, perceived quality, relatively few hassles in accessing care and flexibility in financial arrangements. Compare this to a primary care health system that is fragmented, often inaccessible when needed, and filled with administrative and financial hassles that preclude flexible scheduling and payment arrangements.
- It is not surprising that many people who are uninsured and/or representative of a low income demographic profile tend to use EDs as a front line of care. What is more surprising is that so many people with health insurance and a usual source of care often prefer to use the ED for front line care as well.
- What some characterize as the “inappropriate” use of EDs (treating non-emergent conditions that could more efficiently be treated elsewhere, etc.) is driven to a certain extent by well-known problems in the primary care/safety net setting, such as physician and other provider shortages, difficulties in getting appointments, inflexible payment options and the like. Many health systems, health plans and provider organizations are taking steps to address these problems and improve access to affordable care at the community level by:
 1. Expanding primary care service capacity, including times of operation (evenings, weekends), convenient locations, e-mail access, etc.
 2. Expanding options for the uninsured to purchase insurance, particularly with an emphasis on basic primary care and prevention services.
 3. Providing more options for the direct purchase of care at competitive prices and allowing payment over time both in primary care settings and EDs.
 4. Expanding urgent care, walk-in and other options for basic health care within EDs themselves and in existing and/or new community configurations (health clinics, school-based clinics, shopping areas, etc.).
 5. Providing better education to patients about their health (chronic diseases, prevention techniques, etc.) and its management in both primary care and ED settings.
 6. Providing better education to people with insurance about their specific benefits, and how to optimally use them in settings other than EDs.
 7. Continuing to collect, refine and analyze data on primary care and ED utilization across providers and time periods for purposes of documenting ways to improve conditions of access, quality and cost.

Acknowledgements

We extend our appreciation and thanks to the administrators, interpreting staff and ED staff of Maricopa Integrated Health System, Maricopa Medical Center; St. Joseph's Hospital and Medical Center; and John C. Lincoln Health Network, North Mountain Hospital. Their help made the patient survey possible.

The M-HIP database project is directed by Dr. William Johnson, Professor of Economics, School of Health Management and Policy/ Department of Economics, W. P. Carey School of Business, Arizona State University. Technical direction was provided by Wade Bannister, Data Analytics Manager for the M-HIP Project. They conducted the analysis of the hospital emergency department data using the NYU Algorithm and provided data processing for the ED survey. Dr. Carol Lockhart, C. Lockhart Associates and Jill Rissi, SLHI conducted the ED survey and analysis of results.

Finally, we'd like to acknowledge the technical assistance provided by the Center for Health Services Research and Policy at The George Washington University Medical Center, and the Robert Wood Johnson Foundation's support of *Urgent Matters*.

Sources

- 1 SLHI's previous work in this area includes *Trauma: The Canary in the Mine* and *Squeezing the Rock: Maricopa County's Health Safety Net*. Both are available at www.slhi.org.
- 2 The selection of the three hospital EDs in the studies was determined by (1) SLHI's community partner relationship with St. Joseph's Hospital and Medical Center under the RWJF *Urgent Matters* grant, and (2) the inclusion of at least two other hospital EDs in the central Phoenix corridor whose patient profiles were hypothesized to be sufficiently distinct in order to provide a more comprehensive overview of general ED use in Phoenix. Indeed, results suggest that safety net conditions and ED use are inherently local and are determined by demographics that can vary widely across adjacent communities. While the results of these studies are suggestive of what one might expect to find in other Maricopa County EDs, they are hardly conclusive.
- 3 While the studies are intended to complement each other, they cover different time periods, different sample populations and sample sizes. Implications for a broader population and institutional base should be made with caution.
- 4 M-HIP, which is currently supported by SLHI and in its first year of construction, is directed by William G. Johnson, PhD, at Arizona State University's School of Health Management and Policy, W.P. Carey School of Business.
- 5 Population data are taken from SLHI, Arizona Health Futures. *Arizona CAN! Coverage and Access Now*. Winter 2004. Available at www.slhi.org.
- 6 Residential address in a zip code where the average income was less than \$30,000 annually was used as a surrogate for household income in the ED encounter dataset. Within a given zip code, the actual income of individual households may vary.
- 7 Billings, J., N. Parikh and T. Mijanovich. *Emergency Department Use: The New York Story*. The Commonwealth Fund; October 2000.
- 8 The algorithm is a product of a consensus panel of ED physicians and is not intended as a tool for triaging patients or determining whether their ED use was appropriate for payment. It assigns cases based on the percentage of encounters and has the potential for “uncertainty” and “variation.” Some cases do not fit into identified categories, and are therefore not classified. The M-HIP database and attendant analysis, included data that was not found in the NY algorithm, such as drug/alcohol, mental health and injury related encounters. For a detailed description and discussion of the NYU algorithm, its modifications and articles published, see New York University Center for Health and Public Service Research (NYU:CHPSR) web site at <http://www.nyu.edu/wagner/chpsr>.
- 9 Zuckerman, Stephen and Yu-Chu Shen (2004) *Characteristics of Occasional and Frequent Emergency Department Users: Do Insurance Coverage and Access to Care Matter?* Medical Care; 42(2).
- 10 Billings, J., N. Parikh and T. Mijanovich. *Emergency Department Use: A Survey of Bronx Patients*. The Commonwealth Fund; November 2000.
- 11 One notes some interesting comparisons between the insurance status and demographic characteristics of all ED patients at the selected hospitals and those who participated in the waiting room survey. However, since the population samples of the two studies varied widely in size, and since the survey itself took place within a restricted time period, we do not pursue possible ramifications of those differences here.
- 12 Income data are from the survey questionnaire itself.